

NEOTROPICAL GEOMETRIDÆ APPARENTLY
UNDESCRIBED

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Although ill health has prevented the author from collecting actively during the past year, the South American species continue to accumulate and among the many species still to be determined there are a few which may well be described and in this paper the author ventures a few of these descriptions. The author is indebted to his good friend Mr. D. S. Fletcher of the British Museum for his usual careful comparisons and in some cases for generic reference, and to Dr. E. L. Todd of the U. S. National Museum for comparison of the Mexican species. The colors given in these descriptions are those of Ridgway, Color Standards and Color Nomenclature, 1912.

***Lithostege herbuloti*, sp. n.**

♂ palpi moderately long, $2\frac{1}{2}$ times the diameter of the eye, heavily scaled, light drab gray and white, antennæ simple, $\frac{3}{8}$ the length of the wing. Thorax lightly scaled, abdomen closely scaled, untufted chaetosemæ small concealed. Legs close scaled fore tibia heavily armed, hind tibia with all spurs. Ground color of wings and body light cinnamon drab, abdomen cinnamon.

FOREWINGS: Of the ground color, somewhat lighter beyond the t.p. line, lines indistinct, fuscous. Basal line narrow, from the costa at $1/10$ out curves sharply outward to a sharp point just below the cell, thence more gently back to inner margin at $1/10$. There are four dim lines subparallel to the basal line which make up the extra median area, the median line is moderately distinct, narrow, starts $\frac{1}{2}$ out on costa, curves sharply inward to the cell, thence sharply out through the cell making an angle toward inner margin at right angles to this for $\frac{1}{2}$ mm. and disappears. The t.p. line starting at $3/5$ out on costa parallels the median line but is accompanied by a line going straight from costa to vein 4 forming a distinct kidney shaped lunule the center of which is shaded brown. There are four broken parallel shade lines in the subterminal area and a dark terminal line broken at the veins. Fringe fuscous with a median shade line. There is a postmedian fuscous blotch between line 1 and inner margin. No discal dots.

*This paper was completed by John Sperry shortly before his death, and was found among his effects. He passed away on January 21, 1954. In the published obituary which appeared in the last issue of our Bulletin, an inadvertent transposition of numerals occurred, wherein the year of death was given as 1945 instead of 1954.

HIND WINGS: White, veins outlined narrowly in drab, drab terminal line broken at the veins, fringes white. Hair pencil at base of wing heavy, lobe at base of inner margin small. No discal dot.

Beneath: lighter drab on the forewings, median and t.p. lines indicated at the costa, no discal dots present. Fringes on forewing checkered.

The maculation of the ♀ is slightly lighter and less distinct. Expanse, 26-28 mm.

HOLOTYPE ♂, Cochabamba, Bolivia, 25.2.1950 and in the Sperry collection.

ALLOTYPE ♀, Cochabamba, Bolivia, March 10, 1950, in the Sperry collection.

PARATYPES, 5 ♀ same locality, 9.9.1948, 23.10.1949 and Feb. 5, 1949.

It gives me pleasure to name this interesting insect in honor of Monsieur Clade Herbulot of Paris, distinguished entomologist and authority on the Palæarctic Lepidoptera.

This species seems nearest to *scoliogramma*, Prout (1922, Nov. Zool. 29:354 ♀ Missiones, Argentine.)

***Pachrophylla margaretæ*, sp. n.**

MALE: Palpi short, porrect, heavily scaled, not extending beyond the face, tinged with black and rose. Tongue developed, face closely scaled, a black red band below the vertex, mixed with rosy scales below, vertex a mixture of rose and white scales, antennæ simple, light rose with dark rings at the segment joints, short, just over $\frac{1}{2}$ length of forewing. Chaetosemæ short, made up of fine bristles, conspicuous. Thorax heavily scaled and mixed with long hairs. Abdomen moderately stout, short scaled, slightly tufted terminally, second, third and last segments narrowly ringed, distally marked with dark scales. Legs thin, light tan, fore tibia unarmed, hind tibia not swollen, without hair-pencil, all spurs present.

FOREWINGS: Broad, triangular, subfalcate, outer margin angled slightly at vein 4, slightly excurved toward tornos. The basal and t.a. lines are broad bands, edged with black and centered with carob brown scales, the median and t.p. lines are single and faint except for the costal section of the t.p. line. Basal from $\frac{1}{5}$ out on costa at right angles to same to below cell thence angling inward to inner margin at $\frac{1}{6}$. T.a. from costa at $\frac{2}{5}$ goes slightly inward (about 80 degrees) to lower border of cell, thence angled inward and curved outward to inner margin at $\frac{2}{5}$. Median line faint from dark spot on costa at $\frac{1}{2}$, scalloped subparallel to outer margin with points of scallops on the veins

reaches inner margin at $2/3$. T.p. line from $4/5$ on costa, curved sharply inward to vein 6 thence scalloped, curving outward to below line 4, the line heavy to this point, thence fading in long shallow scallops, the points inward on the veins reaching inner margin at $4/5$. The upper half is shaded distally with bluish atoms. A narrow terminal line, a dark blotch terminally between veins 6 and 7. Fringes light at vein tips, dark between. A slightly raised bluish discal spot. The ground color of forewing, thorax and abdomen above varies from vinaceous fawn to vinaceous buff, the lines are carob brown.

HIND WINGS: Normally developed, small, a rounded angle at vein 4, white with a sparse sprinkling of rosy atoms at outer fifth near tornos. Distinct small dark discal spots. There is a trace of a terminal line, otherwise the wing is unmarked, fringes white. There is a long, broad pencil of colorless hair from the base of the wing.

FEMALE: Half again larger than the male, maculation not so bright, color between tawny olive and umber.

Beneath, lighter shining tan, a black, irregular, scalloped t.p. line on both wings. Costal third of median line also present on primaries as is also the terminal line. Discal points black, small, round, distinct on both wings in both sexes.

Expanse ♂ 27 mm. ♀ 35 mm.

HOLOTYPE, ♂ Cochabamba, Bolivia, 15.1.1950 and in the Sperry Collection.

ALLOTYPE ♀ Cochabamba, Bolivia, 26 mm. 2.17.1946 and in the Sperry Collection.

PARATYPES 62 ♂, 9 ♀ Cochabamba, Bolivia, taken between October 14 and March 17, 1946 to 1950.

According to the British Museum List there are at present eight species included in the genus *Pachrophylla*, Blanchard, all type localities being in Chile. My friend, Mr. D. S. Fletcher, informs me that *margaretæ* is closest to *fissa* Felder, a species represented in the Sperry collection from the province of Neuquen in the Argentine. The ♂ gentilia are indeed close though one would never mix the species, for the maculation is distinct, the lines of *fissa* are much heavier and more erect, the area between basal and t.p. line forming one heavy band, and furthermore the white hind wings of the ♂ *fissa* are aborted, folded from the tornos, which is drawn out to a sharp point, to the base and carrying a large rounded lobe, extending from the base $2/3$ the way to the anal angle. The hair pencil on the hind wings is narrow, sparse and darker than is that of *margaretæ*.

The ♂ genitalia of *margaretæ* has a narrow, sharp tipped uncus, socii barely indicated by a few short hairs. The rounded

undecorated valvæ are deeply lobed, close to the costa, the ædeagus chunky, square at the end, the vesica armed with one heavy and one narrow bunch of fine spines. In *fissa* the uncus is longer and somewhat broader, the socci well developed, the valvæ longer and barely notched at the apex, the ædeagus longer and heavier and carrying two heavy bundles of fine spines on the vesica.

It is with much pleasure and deep gratitude that I name this fine species in honor of Mrs. D. S. Fletcher of Worlingham, Surrey, with great appreciation of the many months of tedious work which she has so freely given to help her husband, the author and all other Geometrid lovers to a simpler handling of the troublesome Larentiidæ.

***Casbia schachovskoyi*, sp. n.**

While this interesting species from Neuquen, N. Patagonia, Argentine, is most variable as concerns its color, the pattern of its maculation is reasonably stable.

BOTH SEXES: Palpi short, porrect, barely exceeding the front, about $1\frac{1}{4}$ times the diameter of the eye, heavily scaled. Front smooth scaled, fuscous; vertex fuscous. Male antennæ dentate, female simple, checkered in fuscous and white, short, about $\frac{1}{2}$ length of fore wing. Thorax black, heavily scaled, abdomen moderately short, not exceeding the wings, tufted dorsally and laterally on the last segment, white with a row of black lateral spots. Legs sparsely scaled, checkered with long black and short white spots, fore tibia unarmed, hind tibia with hair-pencil and all spurs.

FOREWINGS: Short, mouse gray for 3 mm. from base with a brick red spot on costa at the base. T.a. line starts as a heavy dark spot on costa $\frac{1}{3}$ out, curves sharply out to a point in mid cell, thence to the inner margin at $\frac{2}{5}$ in two faint equal scallops with the points outward on veins 1 and the margin. There is a blotch of rosy brown in the point at mid cell. T.p. line runs from $\frac{2}{3}$ out on costa to $\frac{3}{4}$ out on inner margin, heavy at the costa and fading in shallow scallops to inner margin, the points are outward on the veins, the line shaded outwardly with white. There is a sharply dentate white, zig-zag line in the subterminal area, subparallel to the outer margin, a dark terminal line broken at the veins. The area between the s.t. line and the white shade bordering the t.p. line and between vein 6 and the costa is heavily mouse gray, there is a long lens of the same color between s.t. and terminal lines, pinching to zero shortly above anal angle and at the apex. Discal dot indistinct or lost in reddish brown blotch. In some specimens the lower half of the wing is white, in some a gray-brown suffusion all but blots out the maculation over all the wing, in some the ground color is gray, in others white.

HIND WINGS: White, a scalloped narrow, sometimes indistinct

t.p. line, the points outward on the veins, a narrow, dark terminal line broken at the veins, an indistinct discal dash. Two black spots at the anal angle mark the t.p. line and an indicated s.t. line.

BENEATH: Forewings shining gray, costal and apical areas white, the t.a. and t.p. lines and the subapical dark spot distinct in the costal area.

Terminal line and discal spot distinct. Hind wings light gray, with distinct t.p. line, broken terminal line and distinct discal spot.

Expanse both sexes 25-32 mm.

HOLOTYPE ♂ Lake Nonthue, Neuquen, N. Patagonia, Argentine, 15.9.1952, S. Schachovskoy, Collector, and in the Sperry Collection.

ALLOTYPE ♀ San Martin de los Andes, Neuquen, N. Patagonia, Argentine, Oct. 1952 and in the Sperry Collection.

PARATYPES 14 ♂ 13 ♀ from Lake Nonthue, Sept. to Feb. 1951, 2 & 3.

It gives me pleasure to name this fine species in honor of the collector who has supplied the author with many interesting Patagonian Geometrids.

***Microclysia piersonæ*, sp. n.**

The ground color of this interesting moth is in the ♂ pinkish cinnamon, in the ♀ cinnamon buff, the maculation is pecan brown. The palpi of both sexes are short, scarcely exceeding the front, porrect, lightly scaled, buff, tipped with fuscous. Front smooth, cinnamon, vertex cinnamon buff, chaetosemæ sparsely developed, distinct, 5 or 6 short bristles. Male antennæ thickened and flattened $\frac{2}{3}$ the length of the wing, female filamentous, simple. Thorax clothed moderately with a mixture of scales and long hairs, of the ground color, abdomen smooth scaled with occasional fuscous flecking, small latero-ventral tufts in the ♂, ♀ un-tufted. Legs long, of the ground color, flecked with fuscous, fore tibia unarmed, ♂ hind tibia swollen, with hair pencil, all spurs present in both sexes.

Outer margins of both wings scalloped between the veins, fore wing subfalcate and produced at vein 4. The maculation varies to some extent in both sexes, in most males the color is pinkish cinnamon as stated, there are strigæ of pecan brown, varying much in quantity from a very few to a large number covering all the fore wing, the costal margin is cinnamon-buff with pecan brown spots indicating the lines, usually the t.a. line is wanting but in three of my series of males is strong and starts $\frac{2}{5}$ out on costa, gently waved subparallel to outer margin to inner margin at $\frac{2}{5}$, t.p. line from $\frac{7}{10}$ out on costa goes sharply outward to vein 7, thence

curving parallel to outer margin to vein 2 and thence reversing the curve to inner margin at $2/3$, this line is shaded outwardly by a narrow band of cinnamon buff. There is a dark triangular blotch just beyond the t.p. line from the costa to vein 6, basal, median, s.t. and terminal lines absent. Fringes are of the ground color; there is a tiny brown discal dot. In the ♀ the strigæ are mostly absent, the lines are largely obsolescent, though well marked at the costa, in two specimens both t.a. and t.p. lines are heavy with the central area heavily dusted with brown.

HIND WING: Strigæ very few, t.p. line from $3/5$ on inner margin gently waved outward to vein 3, thence reversed as to curvature, fading out between veins 5 and 6; this line is distinct in both sexes and bordered outwardly with cinnamon-buff. A small discal dot is present.

Beneath darker in both sexes, with a heavier irroration of fuscous atoms on both wings, lines heavier, otherwise as above.

Expanse ♂ 25-29 mm. ♀ 25-27 mm.

HOLOTYPE ♂ San Martin de los Andes, Neuquen, N. Patagonia, Argentine, 18.2.53 and in the Sperry Collection.

ALLOTYPE ♀ Pucara, Neuquen, N. Patagonia, Argentine, 24.2.1953 and in the Sperry Collection.

PARATYPES 19 ♂ 9 ♀ from San Martin de los Andes, Lago Lacar, Pucara and Lake Nonthue all from Neuquen, Argentine, February and March 1952 and 1953 with one specimen taken in October, and 12 ♂ San Carlos de Bariloche across the lake in Rio Negro and taken in February, 1952.

It gives me much pleasure to name this beautiful *Microchysia* in honor of my charming sister-in-law, Mrs. Alice R. Pierson, together with my grateful thanks for the countless hours which she has added to my working time by spreading these interesting South American Geometridæ.